



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/074,180	02/12/2002	Walter Lange	Mo6874/LcA 34,067	7005

34947 7590 10/31/2003

BAYER CHEMICALS CORPORATION
100 BAYER ROAD
PITTSBURGH, PA 15205

EXAMINER

OH, TAYLOR V

ART UNIT	PAPER NUMBER
----------	--------------

1625

DATE MAILED: 10/31/2003

10

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/074,180

Applicant(s)

LANGE ET AL.

Examiner

Taylor Victor Oh

Art Unit

1625

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) 8 and 9 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

The Status of Claims :

Claims 1-9 are pending.

Claims 8-9 have been withdrawn from consideration.

Claims 1-7 have been rejected.

Election/Restrictions

Applicant's election without traverse of Group I (claims 1-7) in Paper No. 9 is acknowledged.

Claims 8-9 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to nonelected groups II, there being no allowable generic or linking claim.

Priority

1. It is noted that applicants have satisfied the requirement of 35 USC 119 by filing priority documents , Germany 10107151.5, Feb. 16, 2001, Germany 10115405.4, April. 29, 2001, Germany 10152789.6, Oct. 25, 2001.

Claim Rejections - 35 USC § 112

Claims 1, 5, and 7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The phrases " a cinnamic acid derivative" and/ or " an acrylic acid derivative " are recited in the claims. However, the term " derivative" is without further clarification by the specification. Therefore, an appropriate correction is required.

Claim 3 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The phrase " mixtures thereof " is recited in the claim. However, this phrase is vague and indefinite because there is no disclosure or passage related to the various mixtures of the catalyst composition containing PdCl₂, PdBr₂, Pd(NO₃)₂, H₂PdCl, and etc in any proportion recited in the specification. Therefore, an appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

Art Unit: 1625

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 7 is rejected under 35 U.S.C. 102(b) as being anticipated clearly by Coulton et al (WO 00/07993).

Coulton et al discloses 2-chloro-4-fluorocinnamic acid compound (see page 35, lines 25-26). This is identical with the claim.

Claim 7 is rejected under 35 U.S.C. 102(b) as being anticipated clearly by Novelli et al (WO 00/08023).

Novelli et al discloses 4-chloro-2-fluorocinnamic acid compound (see page 21, lines 29-30). This is identical with the claim.

Claim 7 is rejected under 35 U.S.C. 102(b) as being anticipated clearly by Brouwer et al (US 4,979,982).

Brouwer et al discloses 3-(2-chloro-4-fluorophenyl)-2-propenoic acid compound (see col. 5, line 52). This is identical with the claim.

Claim 7 is rejected under 35 U.S.C. 102(b) as being anticipated clearly by Kelley et al (US 5,708,033).

Kelley et al discloses 2-chloro-4-fluorocinnamic acid compound (see col. 10, line 17). This is identical with the claim.

Claim Rejections - 35 USC § 103

Art Unit: 1625

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saumitra et al (J. Chem. SOC. PERKIN Trans, p. 1943-1944, 1993) in view of Kikukawa et al (J. Org. Chem. 1981, Vol. 46, No. 24, p. 4885-4888).

Saumitra et al discloses a method of preparing a halogenated cinnamate compound by reacting arenediazonium tetrafluoroborates with an olefin in the presence of 1-2 mol% of $\text{Pd}(\text{OAc})_2$ (see page 1943, left col. lines 24-32). For another example, a solution of NaNO_2 in water was added to a mixture of p-anisidine (8.13 mmol) in 42% HBF_4 (20.62 mmol); ethyl acrylate (11.13 mmol) and $\text{Pd}(\text{OAc})_2$ (0.5 mmol) were added to the mixture under heating, thereby obtaining the desired product (see page 1944, left col. lines 20-28).

However, the instant invention differs from the reference in that at least two of the substituents on the phenyl ring are halogen in the starting material.

Kikukawa et al teaches a method for phenylation of olefins by aniline under palladium catalysis (see page 4886, table III), during which a diazonium salt is formed in situ (see page 4887, right col., lines 15-18). Furthermore, different forms of palladium complexes, such as, palladium (II) acetate (see page 4887, right col., line 5), tetrakis (triphenylphosphine)palladium (see page 4887, right col., line 20) can be applied to the method. Moreover, Kikukawa et al indicates that the current method offers several advantages: high product yields under mild conditions and tolerance of substituents on both olefinic substrates and arylamines (see page 4887, right col., line 31-34).

Saumitra et al does disclose the method of preparing the halogenated cinnamate compound by reacting arenediazonium salt with ethyl acrylate in the presence of $\text{Pd}(\text{OAc})_2$, and similarly, Kikukawa et al does teaches the method for phenylation of olefins by aniline in the presence of palladium (II) acetate catalyst; also, the Kikukawa et al method makes it possible to add substituents such as chlorine (see page 4886, table II) on the arylamine compounds. Both references are directed to the preparation of the halogenated cinnamate compound. Therefore, it would have been obvious to the skilled artisan in the art to have motivated to incorporate the Kikukawa's et al teaching of tolerance of substituents on arylamines into the Saumitra et al method in order to prepare the polyhalogenated cinnamate compound.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Taylor Victor Oh whose telephone number is 703-305-0809. The examiner can normally be reached on 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Alan Rotman can be reached on 703-308-4698. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1235.

Myth
10/28/03